ASSAULT BY BURNING IN JORDAN

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SUMMARY. Criminal attacks by burns on women in Jordan are highlighted in this retrospective study carried out of all proved cases of criminal burns in female patients treated at the burn unit of the Royal Rehabilitation Center in Jordan between January 2005 and June 2012. Thirteen patients were included in our study, out of a total of 550 patients admitted, all in the age range of 16-45 yr. Of these 13 women, six were burned by acid throwing, five by hot water, and two by direct flames from fuel thrown over them. Burn percentage ranged from 15 to 75% of the total body surface area, with involvement in most cases of the face and upper trunk. The mean hospital stay was 33 days and the mortality rate was 3/13, i.e. 23%. Violence against women exists in Jordanian society, yet burning assaults are rare. Of these, burning by throwing acid is the most common and most disfiguring act, with a higher mortality rate in domestic environments.

Keywords: assault, burn, acid, domestic

Introduction

Burn injuries continue to be among the most serious and most devastating health threats for human beings, with a long and permanent effect on patients’ health and quality of life.1,2 Worldwide, burns caused by criminal acts mostly concern women and are acts of domestic violence or of revenge for refusal of a proposal of marriage.3 It is a brutal punishment of the victims, possibly still a serious problem in some Asian countries, such as Bangladesh, Afghanistan and India,4,5 yet considered a rather rare incident in Jordan. Our burn unit is one of two established in Jordan, and it provides services to a wide geographic population. In our study we investigate the magnitude of these acts, their demographic distribution, and the background to the crimes, together with their effects upon the victims.

Materials

The medical records of 550 patients admitted to the Royal Rehabilitation Center burn unit at the King Hussein Medical Center in Jordan during the period between January 2005 and June 2012 were reviewed. It is part of our routine audit in our burn unit to analyse each case and review the circumstance related to the injury. Of these, 13 cases (2.4%) proved to be criminal acts against females. No out-patients were included in this study. A special form was produced to collect the data related to age, gender, method used to burn, causes, surface area, region of referral, admission period, mortality, and post-discharge outcome.

Results

Of the total admissions to our burn unit only 13 cases were considered violence against females: they accounted for 2.4% of all cases. The group varied in age from 16 to 45 years old. Six patients were burned by acid throwing (concentrated sulphuric acid was the material most commonly used), five by hot water, and two by fuel thrown over them (mainly kerosene) and ignited, thus receiving direct flame burns. The percentage of burns ranged from 15 to 75% of the total body surface area: most patients had their face and upper trunk included in the burned area, one losing her sight in the left eye (Fig. 1). All the patients burned by acid were referred from major cities (Amman, Zarqa), while the majority of scald and direct flame burn victims were referred from rural areas. The mean hospital stay was 33 days and the mortality rate was 3/13, i.e. 23%. All patients required further surgical intervention. Table I summarizes the cases.

Discussion

Violence against women still afflicts many societies worldwide, with different methods used, such as stabbing with a knife, gun shooting, or beating with a stick. Most of these assaults are related to domestic conflicts, but a certain number of women have been assaulted by fire or

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scalds. Chemical burns by sulphuric acid thrown into the victim’s face are still one of the commonest methods used to disfigure a female face permanently, even causing blindness.6,7 Bangladesh, Afghanistan, and India are the countries reporting the highest numbers of such criminal acts,8 which had never been reported in Jordan before nor ever received proper attention or media coverage. In our study, most cases of assaults against women were grounded on the sense of dishonour felt by the rejected perpetrators for the refusal of their proposal of marriage or for refusal to have an extramarital relationship. This cause and this method of burning women proved to be the most common in our study, as in others.9,10 The second commonest method of inflicting burns was by scalding - this was mainly related to domestic conflict between husband and wife. In one case a woman was burned by her husband using sulphuric acid in over 75% total body surface area (TBSA) while she was having a bath. Most of our patients were referred from major cities, the others from rural areas. The duration of hospitalization was related to the cause of the burns and to the percentage of TBSA, ranging from 14 to 45 days, with acid burn patients having a longer hospital stay than scald patients. All the patients suffered second- and third-degree burns. The mortality rate was highest in these cases (3/13, i.e. 23%), which was higher than the overall mortality rate (14%) for all patients admitted to our burn unit over a similar period of time.11 It is however less than the mortality rate for patients with a TBSA over 50%. All three deceased patients were burned by direct flame burn and had a percentage of TBSA of more than 50%.

It is also our duty to inquire about any assaults involving other means. Previously there had not been any acid assault patients because other methods were employed. In Jordan any burn patient admitted to the emergency room or to a burn unit is considered a judicial case to be investigated by the police and reported to the authority in

![Image](image_url)

**Fig. 1** - Sixteen-yr-old female assaulted with sulphuric acid by unknown person, front view.

<table>
<thead>
<tr>
<th>Patient number</th>
<th>Age (yr)</th>
<th>Marital status</th>
<th>Perpetrator</th>
<th>Gender</th>
<th>Cause</th>
<th>Burn extent</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16</td>
<td>Single</td>
<td>Unknown</td>
<td>Female</td>
<td>Chemical</td>
<td>19%</td>
<td>Discharged</td>
</tr>
<tr>
<td>2</td>
<td>22</td>
<td>Single</td>
<td>Unknown</td>
<td>Female</td>
<td>Chemical</td>
<td>15%</td>
<td>Discharged</td>
</tr>
<tr>
<td>3</td>
<td>40</td>
<td>Married</td>
<td>Husband</td>
<td>Female</td>
<td>Scald</td>
<td>25%</td>
<td>Discharged</td>
</tr>
<tr>
<td>4</td>
<td>45</td>
<td>Married</td>
<td>Husband</td>
<td>Female</td>
<td>Scald</td>
<td>28%</td>
<td>Discharged</td>
</tr>
<tr>
<td>5</td>
<td>31</td>
<td>Married</td>
<td>Husband</td>
<td>Female</td>
<td>Chemical</td>
<td>75%</td>
<td>Death</td>
</tr>
<tr>
<td>6</td>
<td>32</td>
<td>Married</td>
<td>Husband</td>
<td>Female</td>
<td>Difluorobenzene</td>
<td>65%</td>
<td>Death</td>
</tr>
<tr>
<td>7</td>
<td>25</td>
<td>Married</td>
<td>Husband</td>
<td>Female</td>
<td>Chemical</td>
<td>15%</td>
<td>Discharged</td>
</tr>
<tr>
<td>8</td>
<td>35</td>
<td>Married</td>
<td>Husband</td>
<td>Female</td>
<td>Scald</td>
<td>55%</td>
<td>Discharged</td>
</tr>
<tr>
<td>9</td>
<td>20</td>
<td>Single</td>
<td>Unknown</td>
<td>Female</td>
<td>Chemical</td>
<td>21%</td>
<td>Discharged</td>
</tr>
<tr>
<td>10</td>
<td>22</td>
<td>Married</td>
<td>Unknown</td>
<td>Female</td>
<td>Difluorobenzene</td>
<td>55%</td>
<td>Death</td>
</tr>
<tr>
<td>11</td>
<td>24</td>
<td>Single</td>
<td>Unknown person</td>
<td>Female</td>
<td>Chemical</td>
<td>16%</td>
<td>Discharged</td>
</tr>
<tr>
<td>12</td>
<td>33</td>
<td>Married</td>
<td>Husband</td>
<td>Female</td>
<td>Scald</td>
<td>23%</td>
<td>Discharged</td>
</tr>
<tr>
<td>13</td>
<td>28</td>
<td>Married</td>
<td>Family member (brother)</td>
<td>Female</td>
<td>Scald</td>
<td>35%</td>
<td>Discharged</td>
</tr>
</tbody>
</table>

Table I - The patients
charge, which is the Family Protection Unit of the Ministry of Social Development.

It is up to the adult victim to press charges against the perpetrators, who were all men in our study: any mortality caused by an assault is regarded as manslaughter according to Jordan law, and the charges made are well grounded.

RÉSUMÉ. Les attaques criminelles par brûlure sur les femmes en Jordanie sont mises en évidence dans cette étude rétrospective menée sur tous les cas avérés de brûlure criminelle subie par les patientes traitées à l’unité des grands brûlés au Centre Royal de Réadaptation en Jordanie entre janvier 2005 et juin 2012. Treize patientes ont été incluses dans notre étude, sur un total de 550 patients admis, toutes dans la tranche d’âge de 16 à 45 ans. Parmi ces 13 femmes, six ont été brûlées par jet d’acide, cinq par eau chaude et deux par les flammes directes du carburant jeté sur elles. Le pourcentage de la surface corporelle brulée variait de 15 à 75%, avec la participation, dans la plupart des cas, du visage et de la partie supérieure du tronc. La durée moyenne de l’hospitalisation était de 33 jours et le taux de mortalité était de 3 sur 13, c’est-à-dire du 23%. La violence contre les femmes existe dans la société jordanienne mais en effet les actes d’agressions de ce type sont rares. La modalité du lancement de l’acide est l’acte le plus commun et le plus défigurant, avec un taux de mortalité plus élevé dans les cas qui se produisent dans l’environnement domestique.

Mots-clés: agression, brûlure, acide, domestique

BIBLIOGRAPHY


Conclusion

Violence against women exists in our society. However, burn assaults, of which burns by throwing acid are the most common and most disfiguring type, are rare. The mortality rate is high, particularly in burns suffered in the domestic setting.